CLAIMS

What is claimed is:

1. A computer-implemented method of searching hypotheses for locations of objects in a playback image corresponding to a recorded image generated by a graphical user interface (GUI) of an application program comprising:

capturing the playback image;

detecting at least one active object in the recorded image;

searching subsets of hypotheses from the playback image for an object according to predetermined criteria;

recalculating old actions for the object in the playback image by applying actions according to an execution scenario and loading a next set of data, when the object is found; and

checking dynamic conditions.

2. The method of claim 1, further comprising repeating the capturing, detecting, searching, recalculating, and checking for each of a series of both of the playback and recorded images according to the execution scenario.

3. The method of claim 1, wherein searching comprises performing a first search using the predetermined criteria of content and layout.

4. The method of claim 1, wherein searching comprises performing a first search using the predetermined criteria of size and distance.

5. The method of claim 1, wherein searching comprises performing a second search using the predetermined criteria of content and sizes of objects.

6. The method of claim 1, wherein searching comprises performing a second search using the predetermined criteria of layout and distances.

7. The method of claim 1, wherein searching comprises performing a third search using the predetermined criteria of content and sizes of additional objects, and layout.

8. The method of claim 1, wherein searching comprises performing a third search using the predetermined criteria of sizes of active objects and distances.

9. The method of claim 1, wherein searching comprises performing a third search using the predetermined criteria of content for active objects.

10. An article comprising: a machine accessible medium containing instructions, which when executed, result in searching hypotheses for locations of objects in a playback image corresponding to a recorded image generated by a graphical user interface (GUI) of an application program by

capturing the playback image;

detecting at least one active object in the recorded image;

searching subsets of hypotheses from the playback image for an object according to predetermined criteria;

recalculating old actions for the object in the playback image by applying actions according to an execution scenario and loading a next set of data, when the object is found; and

checking dynamic conditions.

11. The article of claim 10, wherein instructions to search comprise instructions to perform a first search using the predetermined criteria of content and layout.

12. The article of claim 10, wherein instructions to search comprise instructions to perform a first search using the predetermined criteria of size and distance.

13. The article of claim 10, wherein instructions to search comprise instructions to perform a second search using the predetermined criteria of content and sizes of objects.

14. The article of claim 10, wherein instructions to search comprise instructions to perform a second search using the predetermined criteria of layout and distances.

15. The article of claim 10, wherein instructions to search comprise instructions to perform a third search using the predetermined criteria of content and sizes of additional objects, and layout.

16. The article of claim 10, wherein instructions to search comprise instructions to perform a third search using the predetermined criteria of sizes of active objects and distances.

17. The article of claim 10, wherein instructions to search comprise instructions to perform a third search using the predetermined criteria of content for active objects.

18. A cognitive control framework system for automatically controlling execution of an application program having a graphical user interface comprising:

a recording component adapted to capture user input data and images displayed by the graphical user interface during a recording phase of execution of the application program, and to analyze the captured user input data and displayed images to generate an execution scenario during the recording phase, and

a playback component adapted to perform image analysis on images displayed by the graphical user interface as a result of processing the simulated user input data during the playback phase and captured displayed images from

the recording phase, the playback component being adapted to search hypotheses for locations of objects in a playback image corresponding to a recorded image by

capturing the playback image;

detecting at least one active object in the recorded image;

searching subsets of hypotheses from the playback image for an object according to predetermined criteria;

recalculating old actions for the object in the playback image by applying actions according to an execution scenario and loading a next set of data, when the object is found; and

checking dynamic conditions.

19. The system of claim 18, wherein searching comprises performing a first search using the predetermined criteria of content and layout.

20. The system of claim 18, wherein searching comprises performing a first search using the predetermined criteria of size and distance.

21. The system of claim 18, wherein searching comprises performing a second search using the predetermined criteria of content and sizes of objects.

22. The system of claim 18, wherein searching comprises performing a second search using the predetermined criteria of layout and distances.

23. The system of claim 18, wherein searching comprises performing a third search using the predetermined criteria of content and sizes of additional objects, and layout.

24. The system of claim 18, wherein searching comprises performing a third search using the predetermined criteria of sizes of active objects and distances.

25. The system of claim 18, wherein searching comprises performing a third search using the predetermined criteria of content for active objects.